PacComm Packet Radio Products

PicoPacket

All PicoPacket models include a manual, schematic, unterminated power cable, two unterminated radio cables, an RS-232 cable and adapter from RJ-45 to DE-9. Two port models also include an unterminated GPS cable.

Standard Model. $ 149

Standard with Battery Pack . $ 209

Spare battery pack . . $ 45

Two Serial Port Model . $ 199

Two Serial Port /Battery Pack $ 259

Spare battery pack . . $ 45

PicoPacket w/Internal Trimble GPS Receiver and GPS Antenna. $ 549

Add for Rockwell 12 channel GPS $ 35

PicoPacket w/Internal Trimble GPS, Antenna and Battery Pack. $ 599

Spare battery pack . . $ 45
Add for Rockwell 12 channel GPS $ 35

SPIRIT-2

All models include a Power Supply (US only), manual, schematic, and cables.

SPIRIT-2 Standard Model $ 239

9600 modem filter included.

SPIRIT-2 Satellite Model $ 249

With 9600 and 38400 modem filters

SPIRIT-2/Node $ 225

9.6 kbps primary filter, 19.2 kbps secondary filter, blank EPROM

20 Mhz Option. . add $ 40

SPIRIT-2/Backbone $ 279

57.6 kbps primary filter, 38.4 kbps secondary filter, blank EPROM

SPIRIT-2 PAD $ 239

Modemless 20mhz model for WA4DSY Modem

SPIRIT-2/RF

SPIRIT-2 with 2-watt 440Mhz data transceiver incorporated into a single unit. Specify 9.6 or 19.2kbps and frequency.

SPIRIT-2/RF96(440Mhz) $ 459
SPIRIT-2/RF192(440Mhz) $ 499

TINY-2 MK-II (10 MHz) $ 149

Includes manuals, schematic, and connector kit.

'Open Squelch DCD' add $ 25
Internal DFM 9600 bps modem card (MC-NB96) add $ 119

TINY-2 MK-II/GPS (10 MHz) $ 499

TINY-2/10MHz w/internal GPS, active antenna, pwr supply, 9-9/F-F, and pigtail radio cable.

GPS Manual $ 40

TINY-2/NODE (10 MHz) $ 135

Includes manual, schematic, and connectors (without EPROM)

'Open Squelch DCD' add $ 25
MC-NB96 Modem add $ 119

TNC-NB96 (10 MHz) $ 289

Switchable 1200/9600 TNC Power Supply (US only), Manuals, schematic, & cables

PSK-1 Packet Satellite Modem $ 239

Includes Power supply (US only), manual, schematics, radio, & telemetry cables.

Satellite Combo $ 499

TNC-NB96 and PSK-1 with all cables

TNC-320 HF/VHF Controller $ 219

HF/VHF Packet Controller includes manual, and schematic.

'Open Squelch DCD' add $ 25
Real-time clock add $ 30

HandiPacket $ 229

Includes a Power Supply (US only), manuals, schematic, cables, belt clip, and Velcro™ straps

Gracilis PackeTwin $ 249

Dual port HDLC card with DMA, TTL, RS-232 or RS-423. Shipped with NOS drivers for low cost TCP/IP system.(mfg. by PacComm)

Surface Mount DFM modem for PackeTwin (also fits Kantronics DataEngine) specify model.

PT-4800 (4800bps) $ 150
PT-9600 (9600bps) $ 155
PT-19K (19.2kbps) $ 160
PT-38K (38.4kbps) $ 165
PT-56K (57.6kbps) $ 170

WA4DSY 56kb RF Modem $ 349

28-30 Mhz RF. Requires transverter to operating frequency

EZ-MATRIX $ 35

Diode Matrix Kit, uses DIP diode packs, unassembled

Radio Multiplier-II $ 149

Allows connecting of up to 4 packet modems to one radio. Instructions, schematic

CoaxLAN Adapter $ 29

For use with TINY-2 or MFJ TTL port. Assembled. Includes schematic. Must specify ROSE or TheNet. Quantity pricing available

TEKK Data Radios

KS-900 (450-470MHz) or **KS-900L** (430-450MHz). Up to 9.6kbps. 2 watts.

Must specify frequency $ 159
Modified for 19.2kbps $ 209

KS-960 (450-470MHz) or **KS-960L** (430-450MHz). Up to 9.6kbps. 2watts.

Must specify frequency $ 169
Modified for 19.2kbps $ 219

KS-1000 (450-470MHz) or **KS-1000L** (430-450MHz). Up to 9.6kbps. 5watts.

Must specify frequency $ 189
Modified for 19.2kbps $ 239

KS-2000 (216-222MHz) 3 watts. $ 219

KS-900/960/1000 filters for 19.2kbps $ 35

Accessories and Upgrades

SPIRIT-2 Secondary Modem Filters $ 9

Specify 4.8-9.6-19.2-38.4-57.6kbps

Trimble GPS Antenna $ 65

Antenna supplied with SMB-Jack. Connector may have to be changed for some GPS receivers.

PacketPet for Windows $ 79

Two 3.5" diskettes and manual. Must supply call sign for password generation

'Open Squelch DCD' Adapters $ 29

Specify model :

DCD-3105
For use with TINY-2/MICROPOWER-2
DCD-Header
TNC/PC-320, TNC-200, fits any TNC with TAPR modem disconnect header.
DCD-Universal
Has wire leads for universal connection

10 MHz Upgrade Kit $ 25

For older TINY-2, MICROPOWER-2, TNC-200, TNC-NB96, and MFJ TNCs. Includes CPU, SIO, 100ns EPROM. Specify model number and version of TNC

MC-NB96 $ 119

Internal 9.6 kbps modem for TINY-2, TNC-200, MFJ, etc.

APRS HSP Port Switch $ 29

Fits PC with DE-9P, TNC & GPS with DE-9S

Firmware (EPROM) **& RAM Upgrade**

Latest firmware $ 35
Latest firmware w/APRS (no PMS) for HandiPacket and 320 Series $ 35
Heath Pocket Packet (HK-21) $ 49
32k RAM $ 12
128k RAM $ 25

Manual Sets $ 10

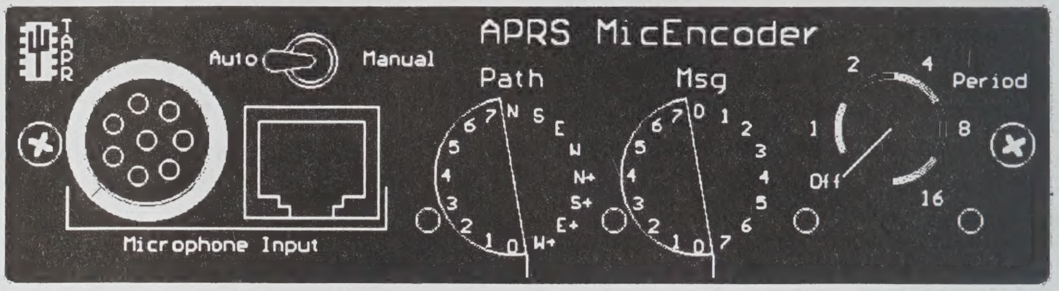
Manual Set for any product EXCEPT GPS. Includes Operating/Technical Manual(s), schematic(s) supplied with product

Trimble SVee6-CM3 GPS Receiver Manual $ 40

Prices are subject to change without notice. Prices do not include applicable taxes and shipping charges.

TAPR APRS™ MicEncoder™ Kit

manufactured by PacComm



As mobile GPS/APRS continues to grow, the need for every mobile to have a TNC, digital radio, and second antenna may be eliminated by simply integrating the GPS position report into a very brief tone burst at the end of a voice transmission over any two-way radio. The APRS™ MIC-E™ is the solution! With the MIC-E™, ***no additional hardware is required*** in the vehicle, other than the GPS unit. The system not only reports position and vehicle type, but also one of 7 canned messages and 4 telemetry values.

The position/identification report is sent in a compressed burst at the end of the voice transmission or can be sent on a timed basis. At the voice repeater, the postion report is removed from the audio path and retransmitted on the APRS channel. Voice repeater users never hear the signal. Operators monitoring the APRS channel will see the location of all MIC-E equipped voice operators as well as the conventional APRS display.

Sales and support of individual units is through TAPR (Tuscon Amateur Packet Radio Assn.), 8987-309 E. Tanque Verde Road #337, Tucson, AZ 85749-9399.Phone: (940) 383-0000, Fax: (940) 566-2544, ttp://www.tapr.org. For information on quantity orders, orders for Public Service Organizations, or on PacComm's industrial MicEncoder-type products, contact PacComm directly.

PacComm Warranty Policy

PacComm products are carefully designed, built, and test to provide good value and long service.

All amateur radio products carry a 30 day money-back guarantee to allow for the return of units that do not meet your requirements. Returned units must be in "like-new" condition or a restocking fee will be applied.

All amateur products carry a 12 month warranty. This warranty does not apply to amateur products used in commercial applications or which have been damaged by misuse or accident.

PacComm will repair or replace, at its option, any unit in warranty which is returned to the factory and found to be defective.

Commercial Service Contracts

Call for information about service contracts and/or extended warranties for amateur products used in commercial service.

Amateur units used in commercial service are not subject to any quantity discounts.

Repair Service

Repair service is available for units that are not within the warranty period. Repair charges are $35/hr plus parts and shipping.

Ordering Information

Payment Options

PacComm accepts VISA®, MasterCard®, Discover™, American Express®, Diner's Club cards, and personal checks for payment. Personal checks will require 5-10 business days to clear before shipment. COD (USA only) must be paid in cash.. cashier's check, or money order.

Radio orders must be prepaid and orders may not be cancelled after acceptance. If paying for radio orders with a credit card, the card will be charged at time of order acceptance.

Orders are shipped via UPS -specify preference:

Ground (6-8 days)	$ 6
Orange (3 days)	$ 8
Blue (2 days)	$10
Red (overnight)	$16

Above pricing is based on the average one pound package. Other shipping methods available upon request: FedEX, USPS Priority Mail or Express Mail.

COD shipments (USA only) incur a $6 COD fee.

PacComm Packet Radio Systems, Inc.
4413 N. Hesperides Street
Tampa, FL 33614-7618 USA

Credit card or COD orders may be placed via:

- Telephone Switchboard (813) 874-2980
- Facsimile (813) 872-8696
- Toll Free Order Line (800) 486-7388

Florida and Ohio residents MUST add sales tax

PacComm Firmware Support for APRS and GPS Applications

PacComm's latest firmware release 5 supports full remote commanding of the TNC, an expanded digipeat function to reduce congestion on UI networks, and a rich set of commands for APRS.

Digipeating Callsign Substitution. The Digipeat command allows ANY combination of the following digipeating filters, or conventional digipeating.
- ***DIGI-SWAP*** - The TNC replaces the alias call with the MYCALL when the TNC digipeats the frame.
- ***DIGI NOT-OWN*** -The TNC never digipeats a frame that was originated with this TNC's MYCALL.
- ***DIGI ONCE*** - The TNC only digipeats a frame once when it finds its MYCALL in the path.

A Password protected **REMOTE COMMANDING** feature uses the following commands:
REMOTE Y|N Enables or disables the remote commanding function in the remote TNC.
RMTcall The command to enter the remote commanding callsign in the remote TNC.
PASSWD Sets the password in the remote TNC used in remote commanding operations.

?APRS? function. When the TNC receives a frame with the data field consisting of ?APRS? it will immediately initiate a full location report to update the calling station.

BRAnge command (beacon timer range) LRAnge for location beacons) allows setting the beacon timing interval to give beacons from once per second to once per day.

The **CONRPT** command sends the location buffers as well as CTEXT (if CMSG is ON) at the beginning of a connection.

The **DISPlay** command has a new display class of DISP G for GPS related parameters.

EBEacon echoes the beacon to the serial port.

ELOC - (Echo Location) echoes the content of LOCation beacons to the serial port.

FIXTYPE establishes how the TNC determines if a good fix exists.

GPS POWER SLEEP. This feature adds the controls to turn off the GPS receiver for battery conservation.

GPSITEXT is a user settable configuration string sent to the GPS when the TNC is powered on.

GPSExit - Sets the command which causes the TNC to exit from the GPS mode. Defaults to '\'.

GPSTEXT, LG1TEXT, LG2TEXT, LG3TEXT fields allow specifying the NMEA GPS sentences to be parsed. Settable to any value, even non-GPS strings for weather station support.

LGETchar - Sets the value of the 'hot key' character used to dump GPS capture buffers to the serial port on 2 port models.

The **LOCation** command controls a beaconing facility tied to the GPS capture buffers.

LPATH is analogous to UNPROTO - the path by which location beacons will be sent. [Beacons to out via UNPROTO, Locations go out via LPATH.]

LTEXT is a location capture buffer analogous to BTEXT. The GPS parser puts the GPS string specified in GPSTEXT into LTEXT, thus saving BTEXT for normal beacons. Similarly LG1TEXT is stored in the L1TEXT capture buffer, LG2TEXT in L2TEXT etc.

MYAlias, MY1alias, MY2alias, MY3alias . Four alias callsign fields.

The **QRA** function. When a UI frame is received addressed to QRA-0, the TNC will respond after a random time with an ID frame.

RTCsync - Synchronizes the TNC clock to GPS received time.

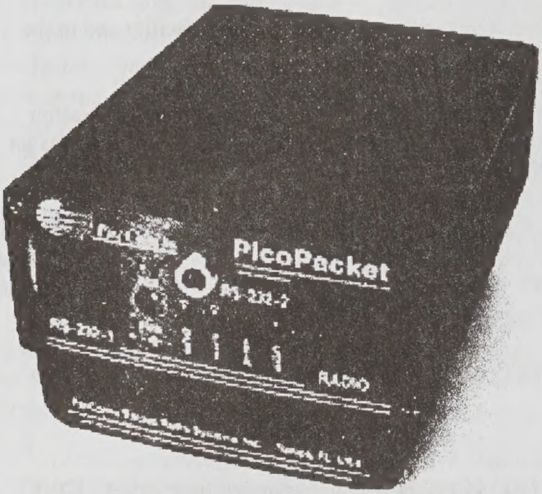
The **time slotting** function provides a location beaconing system which effectively eliminates the hidden transmitter problem. It works with the LOC and Beacon commands to allow beaconed text or location reports (or any strings parsed by the capture function) to be transmitted once per minute, or once per hour. In addition, short duration transmissions (such as those at 9600 bps) may use sub-second slotting. In the maximum configuration ten subslots per second, 60 seconds per minute, and using one beacon per hour will accommodate reporting from 36,000 stations. Such time sensitive transmissions are made possible by reference to the GPS time (see RTCSync command.)

The following commands work with the capture buffers (LTEXT, L1TEXT, L2TEXT, and L3TEXT.)
- ***LSLOT*** takes a value of 0 to 59 indicating the second to be used. A value of 60 disables the function.
- ***LSLOTMIN*** takes a value of 0 - 59 which selects which minute of the hour will be used. If set to 60 then LSLOT will be asserted every minute.
- ***LSUBSLOT*** takes a value of 0 up to the value of LSUBNUMB. This defines the subslot used.
- ***LSUBNUMB*** takes a value of 0 to 9 selecting the number of subslots per second.

The following enable slotted transmissions using BTEXT.
- ***BESLOT*** selects slotted beacon timing (Y) and conventional beacon timing (N).
- ***BSLOT*** takes a value of 0-59 indicating which second is to be used, 60 disables the function.
- ***BSUBSLOT*** takes a value of 1 to 9 indicating which tenth of a second slot to be used.

UIMODE puts the TNC directly into CONMODE upon power-up, bypassing the cmd: prompt.

The PicoPacket
Miniature TNC Family



PicoPacket with Battery Pack and Second Serial Port for GPS or Telemetry Input

The PicoPackets are exciting and innovative TNCs. Inexpensive too! On-Line HELP makes this the perfect beginners' TNC. So easy to learn!

Some Unique Features of the PicoPacket

- On-Line Help.
- Full-time second RS-232 port option available.
- Only 1.0 x 2.5 x 3.25 in / 25 x 63 x 83 mm (standard model).
- Slide-on battery pack option.
- Open squelch DCD circuit included on all models.
- Optional internal GPS receiver.

Compact!

Standard model only 1" x 2.5" x 3.25". An inch shorter than a pack of cigarettes.

Powerful!

Z-181 high integration MPU with one megabyte address space. A powerhouse.

Inexpensive!

Standard Model with 128K of RAM starting at only $ 149 !!!

Terminal programs for both DOS and Windows included (may be shareware or demo versions).

Complete!

Instruction manual, schematic, Quick Command listing, power cord, 2 radio cables, serial cable and DE-9S adapter included.

RJ-45 radio cables are made of "real" copper wire - solders easily to radio connectors (radio connectors not included).

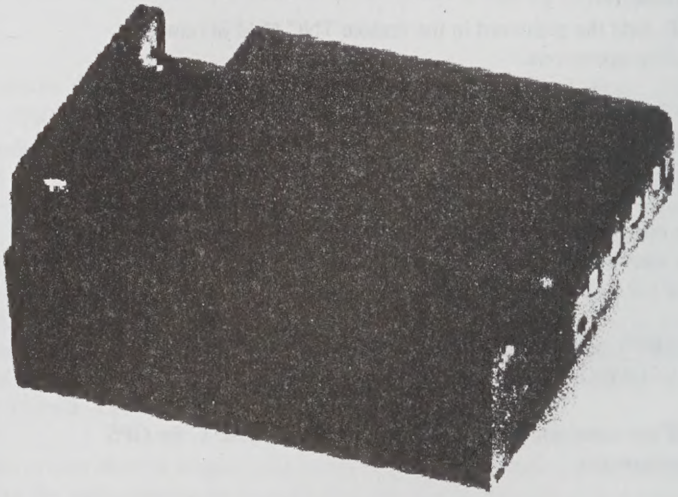
EPROM and RAM are socketed for ease in upgrading firmware. Memory backup battery is socketed.

Personal Message System with all the state-of-the-art features.

Battery Pack Option

Each PicoPacket model (Standard, Second Serial Port, Internal GPS) may be ordered with or without the battery pack.

The case of the all battery pack models fit a quick-change 6VDC slide-on/slide-off battery pack which allows continuous operation. The PicoPacket contains a built-in battery charging circuit.



One of the PicoPacket Battery Pack Models

GPS Ready!

The PicoPacket firmware has many features for convenient operation with a GPS receiver.

APRS Support

Full support for APRS (the Automatic Position Reporting System) built-in. Works with APRS through either the standard single serial port or the optional second serial port.

The PicoPacket and APRS work together so that when the Pico with a GPS receiver (internal or external) is controlled by APRS it sends no location beacons except as commanded by APRS. When the APRS computer is disconnected, the PicoPacket automatically becomes a 'Tracker' sending out location beacons at specified intervals.

PicoPacket with Second Serial Port

New Firmware Features

- ⇒ Allows use of up to four alias callsigns.
- ⇒ Allows use of up to four GPS sentences.
- ⇒ DIGISWAP replaces alias callsign with MYCALL on repeated frames.
- ⇒ DIGI-NOTOWN keeps the TNC from digipeating frames it originated.
- ⇒ DIGIONCE allows the TNC to digipeat a frame only once regardless of the path.
- ⇒ LTEXT can now be transmitted via the radio port, console port, or both ports.
- ⇒ Password Protected Remote Commanding.

PicoPacket GPS Models

The PicoPacket model with the second serial port option is the ideal TNC for use with a handheld GPS receiver, handheld radio, and laptop (or smaller) computer for APRS activity. One serial port for the computer, a second one for the GPS.

A second RS-232 serial port for the PicoPacket allows both a GPS and computer to be attached to the PicoPacket at the same time. Eliminates the need for a hardware port switch adapter. The Second Serial Port option provides a real-time clock which is updated from GPS time.

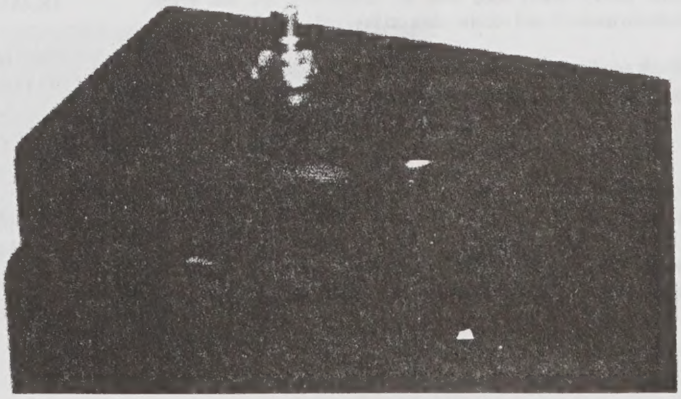
The PicoPacket with the internal GPS receiver is completely self contained in a package under 2.5 x 2.5 x 3.25 inches. Just connect to a handheld radio and you have a complete tracking unit with a full-time serial port to connect to your notebook PC. **A GPS Sleep Funtion in the firmware extends battery life as much as 80%!**

The mag-mount GPS antenna has a footprint less than two inches in diameter, yet it tracks GPS satellites noticeably better than handheld GPS units.

The GPS model has a Trimble SVee6-CM3 GPS receiver fitted directly into the PicoPacket. Optionally available is a Rockwell Jupiter 12 channel parallel receiver. The GPS receiver can be programmed for RMC only; GGA,RMC,and GSA only (required for use with DeLorme Street Atlas USA Rev. 4.0); or GGA,VTG, RMC, and GLL only. A carrier board physically supports the GPS receiver, regulates voltage, and holds a backup battery for the GPS. The GPS receiver is capable of differential correction.

The PicoPacket with internal GPS receiver includes the second serial port option features, but the second serial port is dedicated to the GPS receiver and is not accessible for other purposes.

Two views of the PicoPacket with internal GPS receiver



SPIRIT-2

High Performance Packet Controller

The SPIRIT-2 is the ideal TNC for 9600 bps and faster packet operation for BBS, satellite and NODE use. The SPIRIT-2 is built for reliable high performance, yet is very affordable.

Uses reliable, tested technology (G3RUH modem, TNC-2 CPU architecture) with large-scale programmable logic circuits to reduce cost for solid, reliable performance.

Firmware Features

PacComm firmware uses TAPR style commands with many PacComm extensions and improvements, including KISS. Personal Message System features forwarding, reverse forwarding to other PMS & to BBS. Forwards via network connections or directly. Full APRS support too.

Digital Section Features

512kbit (64k Byte) EPROM. 128k RAM provides 64k of Personal Message System storage and large send and receive buffers. TNC-2 compatible design works with any TNC-2 EPROM.

Bank-switching circuit for TheNet or ROSE network firmware. No wiring modifications required, just set jumpers. 9.8 MHz CPU clock speed and 10 MHz rated parts are standard. 20 MHz CPU option uses a xxxx clock speed.

Terminal baud rates from 9.6 kb up to 57.6 kb for satellite file downloads without dropped frames.

Modem Features

G3RUH design modem with PLL demodulation for outstanding performance.

Two independent modem transmit and receive filter sections to allow jumper selection of either of two radio baud rates with optimum transmit and receive filtering for each.

Radio baud rates from 4.8 kb up to 57.6 kb are supported for fast satellites and network node use. (64kb on special order.)

User Features

Six LEDs. Power (red), Connect (green), Status (yellow), Push to Talk (red), DCD (green) and OPT (a multi-purpose dual color LED). When used with the CoaxLAN, red and green indicate transmit and receive data on the LAN.

Black anodized aluminum case; rugged, attractive, and RFI/EMI resistant. Extensive RFI/EMI filtering. This is a quiet TNC!

Reliability Features

Radio and serial port lines extensively filtered against RF and noise effects.

Major RS-232 and radio lines and power feed are protected against power spikes with on-board surge surpressors (Transorbs).

Network Features

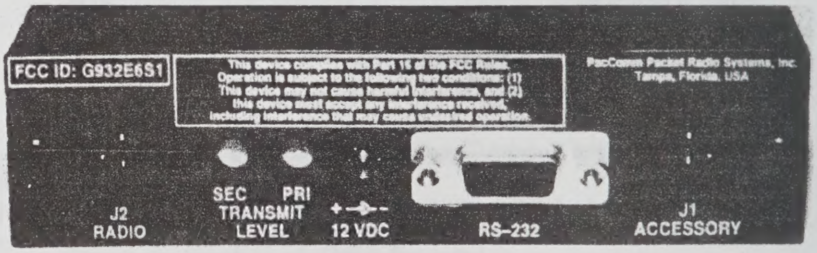
- TNC-2 EPROM compatible, TheNET X1, ROSE, and TEXNET ready, Processing power and modem performance for serious throughput.
- PacComm's CoaxLAN circuit is built in for easily inter-connecting multiple SPIRIT-2's for node stacks. Works with NET/ROM, TheNET, and ROSE. No more need for diode matrices!
- PAD model without modem circuitry attaches easily to WA4DSY MSK modem.

SPIRIT-2 Models

Standard Model: 128k RAM.PacComm PMS firmware. Main modem filters configured for 9600 bps. Auxiliary modem filters unconfigured. This model is fine for terrestrial or conventional satellite use.

Satellite Model: 128k RAM.PacComm PMS Firmware. Modem filters for 9.6 and 38.4 kbps. Other speeds available upon request. Named the satellite model because it will operate in full duplex with 9.6 kbps transmit and 38.4 kbps receive.

Node Model: 32k RAM. 27C512 EPROM with PacComm Diagnostic Monitor program or blank EPROM if requested. Modem filters for 9.6 and 19.2. Other speeds upon request.


FCC ID: G932E6S1
This device complies with Part 15 of the FCC Rules.
Operation is subject to the following two conditions: (1)
This device may not cause harmful interference, and (2)
this device must accept any interference received,
including interference that may cause undesired operation.
PacComm Packet Radio Systems, Inc
Tampa, Florida, USA
J2
RADIO
SEC
PRI
TRANSMIT
LEVEL
+ -
12 VDC
RS-232
J1
ACCESSORY

Backbone Model: 32 k 70 nanosecond RAM. 27C512 70 nanosecond EPROM with PacComm Diagnostic Monitor Program or blank EPROM if requested. 20 MHz CPU running 16.6 MHz. Modem filters for 9.6 and 19.2 kbps provided. 38.4kb or other speeds provided on request (please specify).

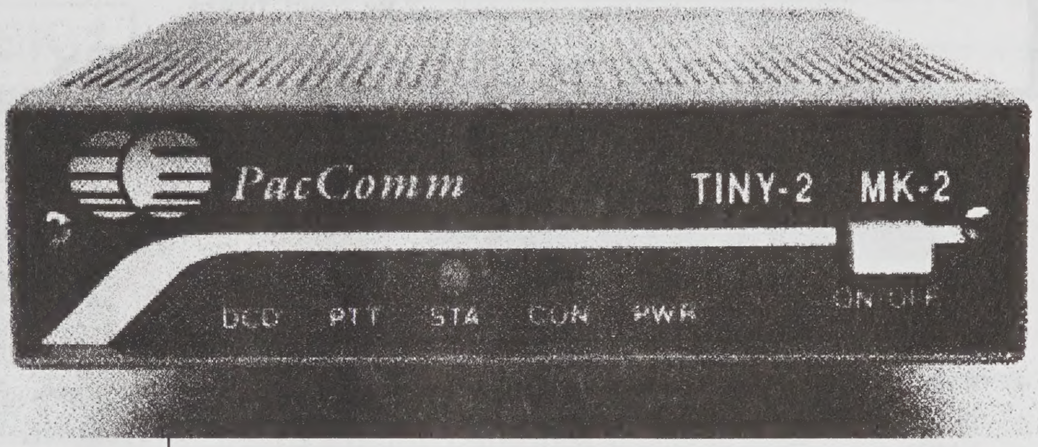
PAD Model: Want to drive a WA4DSY (GRAPES) MSK modem? The SPIRIT-PAD is a 20 MHz Backbone model with no modems fitted. Drives the MSK modem via the auxiliary modem header.

All SPIRIT-2 Models include

- Operating Manual (Standard and Satellite models).
- Hardware Manual with all schematics
- Computer cable for 9 pin PC serial port.
- Unterminated radio cable.

The TINY-2 MK-II Multipurpose TNC

The TINY-2 MK-II is a 1200 baud AFSK TNC which may be used in many ways in the amateur radio world. It is low priced, but a quality product.



A *GREAT* 'first TNC'

- Easy to use. Normal operation uses less than ten commands.
- PacComm's Personal Message System local mailbox with automatic forwarding features.
- Advanced GPS support features included.

A Network Node

- Works with ROSE, NET/ROM, TheNet and all TNC-2 type network EPROMS.
- TINY-2 may be upgraded to 9.8MHz CPU clock speed for heavy channel use or for data speed of 9600 bps or higher.
- Factory installed accessory modem header takes all PacComm and TAPR compatible modem cards.
- TINY-2/NODE model is supplied without an EPROM for user installed node firmware.
- Optional AD-4 Analog to Digital board for use with TheNet X1J firmware.

A GPS Tracker TNC

- APRS (Amateur Packet Reporting System) support features are standard.
- Places GPS location string into CText, LText, SText, etc.
  - Will beacon location periodically.
  - May be polled for position.
  - Responds to ?APRS? queries.
- Available with internal GPS receiver.
- Switch from using your TINY-2 as a regular TNC to a remote vehicle tracker by executing one command.

Advanced Applications

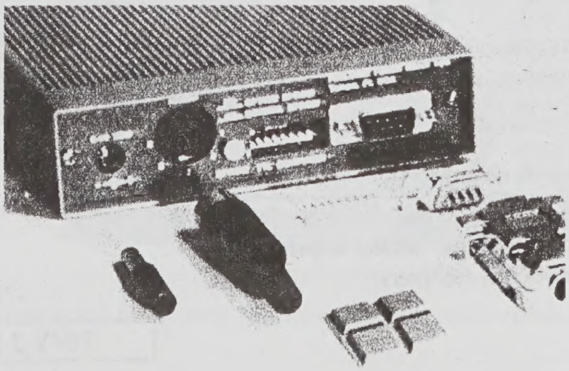
- WA8DED host mode.
- KISS mode for satellite and TCP/IP.
- Telemetry via RS-232 or TTL port.
- Packet communication for a weather node.

Features

- TNC-2 EPROM compatible
- Low power consumption: 45 mA.
- 32k RAM. Over 13k message storage.
- Multicolored LED's - PWR (Power), CON (Connect), STA (Status), Push-to-talk (PTT), Data Carrier Detect (DCD).
- LED Message waiting indicator.
- 64kB EPROM contains two images selected by rear panel switch.
  - PacComm's firmware.
  - WA8DED host mode.
- Rugged extruded case - 5 x 7 x 1 3/8 ins (130x180x35mm). Grey epoxy finish. Weight 18 oz. (500g).
- Both TTL level and RS-232 level serial ports to computer/terminal. Serial rates of 300 to 38.4k baud, jumper selected.
- Comprehensive User's Manual and complete circuit schematics provided.
- All mating connectors provided.
  - Power plug (2.1 mm).
  - 5 pin DIN plug.
  - RS-232 solder cup connector and hood.
  - 8 Pin in-line connector provided for TTL connections.

Options (Available at extra cost)

- 64 kB memory expansion.
- Digital DCD accessory for open squelch radio operation.
- Hardware clock accessory for time retention when power is off.
- MC-NB96 G3RUH modem card upgrade - 9600 or 19200 bps.



The PacComm
TINY-2 MK-II/GPS

Want to experiment with Automatic Position Reporting System (APRS) tracking of your boat or vehicle?

The TINY-2 MK-2/GPS integrates a Trimble SVee6-CM3 OEM GPS module inside the TINY-2 case for convenient and trouble free operation.

Firmware Features

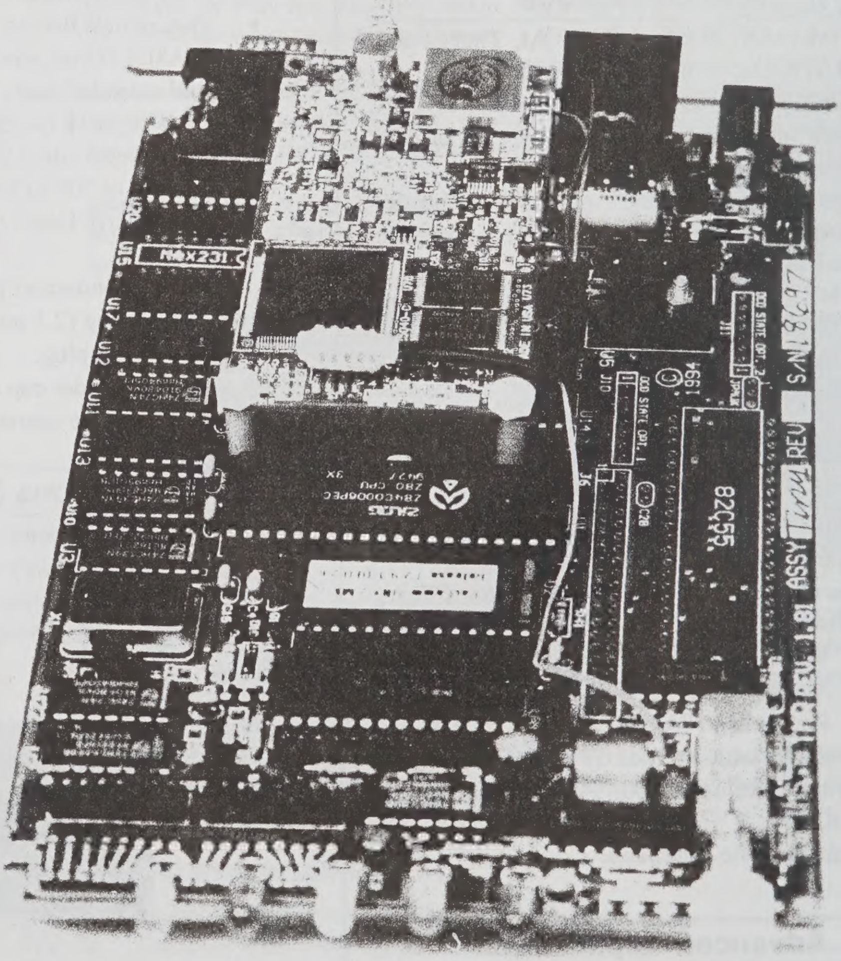
- Switch from using your TINY-2 as a regular TNC to a remote vehicle tracker by executing one simple command.
- PacComm's latest firmware including PacComm's famous Personal Message System local mailbox.
- NMEA command structure compatible. Uses any NMEA GPS output string to place latitude, longitude and satellite availability into CText, LText, SText, etc.
- A dedicated 'beacon function' is available for location information. LOCATION command (like BEACON command), LTEXT (like BTEXT), LPATH (like UNPROTO).
- Select decoding ANY NMEA GPS output string with the GPSTEXT command.
- The GPSITEXT command allows sending a custom configuration string to the GPS at power-up for custom applications. The Trimble GPS supplied with PacComm units has custom firmware to accept this initialization.

Hardware Features

- **Low power consumption:** TNC, GPS & antenna: 280 mA.
- **Options:** Open Squelch DCD Adapter, Hardware Clock.
- SVee6-CM3 GPS bolts securely to mounting holes on the TINY-2 circuit board.
- The EPROM switch on the TINY-2 is converted to use as a Terminal/GPS switch. Set the switch one way and you can program the TINY-2 with commands, set the switch the other way and the GPS is connected and automatically updating the TINY-2 buffers.
- A differential GPS version of the Trimble GPS is available at a small additional cost. The unit monitors the packet channel for DGPS updates while also transmitting its own position.
- The TINY-2/GPS is supplied with an active antenna (mag-mount) which is more sensitive than hand-held units. The antenna has a 15ft lead for convenient placement on any vehicle.

Ordering Information

Order model TINY-2/MK-II/GPS. Delivery is from stock to three weeks depending on availability of GPS receivers.

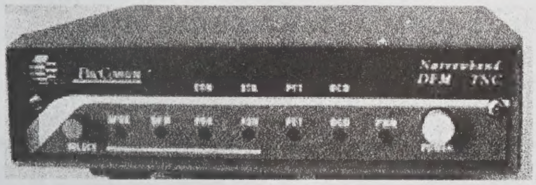


TINY-2 MK-II with Trimble SVee6-CM3 GPS Receiver installed.

TNC-NB96 and PSK-1
Satellite Modem Combo

(Also available individually)

TNC-NB96 1200/9600 Baud TNC



The TNC-NB96 consists of a TINY-2 MK-2 TNC with open squelch adapter and a G3RUH DFM modem.

A front panel push button switch selects between 1200 AFSK, 9600 DFM, 1200 baud PSK (if PSK-1 is attached) and whatever modem is connected to the rear-panel modem accessory connector.

The TNC-NB96 is the perfect companion to the PSK-1 Satellite Modem. The switching circuitry in the TNC-NB96 and the PSK-1 operate together to allow access to the 1200 bps Microsats and the 9600 bps UoSATs through the same multimode transceiver.

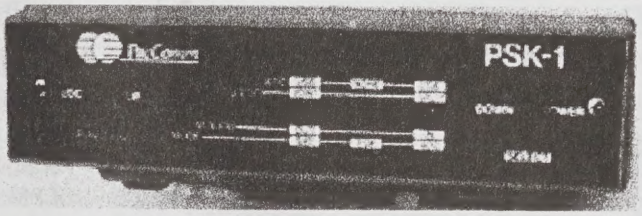
TNC-NB96 Features

- G3RUH design modem provides excellent 9600 bps performance.
    - ⇒ Jumper configurable for 19,200 bps.
- Rear panel accessible TAPR-style modem disconnect header.
- 32k non-volatile RAM. Provides over 14k message storage.
- LED Message waiting indicator.
- 64kB EPROM contains two 32kB EPROM images (selectable by rear panel switch).
    - ⇒ PacComm's latest firmware including Personal Message System local mailbox
    - ⇒ WA8DED host mode.
- 1200 bps AFSK port has digital DCD adapter for use with unsquelched radios.
- Rugged extruded case - 6 x 7 x 1 7/8 inches. Grey epoxy finish. Weight 35 oz. (1kg).
- Serial rates of 300 to 38.4k baud, jumper selected.

TNC-NB96 and PSK-1 Satellite Modem Combo

These two units are designed to work together to make a complete packet station for both the 1200 bps PSK and 9600 bps satellites. When ordered as a combination, they are provided with pre-made interconnection cables. Only the radio attachment cable needs to be terminated. All satellite and terrestrial modes are selected by push buttons. Supports 1200 bps AFSK, 1200 bps PSK, 9600 bps DFM.

PSK-1 Packet Satellite Modem



The PSK-1 converts a standard 1200 baud AFSK TNC which has an accessory modem header to operate with packet satellites. It provides 1200 baud Manchester encoded AFSK output for satellite uplink and decodes 1200 baud PSK signals downlink signals. Also decodes 400 baud telemetry from Oscar 10 and 13.

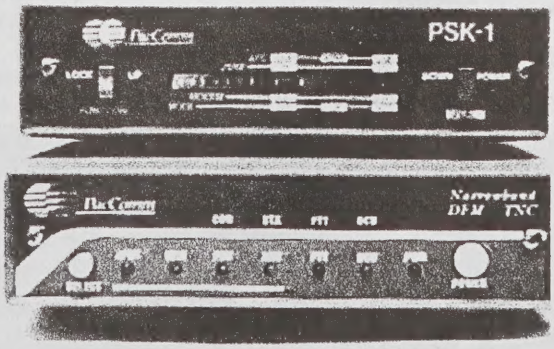
Transmits and receives 1200 baud PSK for terrestrial HF use.

PSK-1 Features

- All modes and functions selected by front panel push buttons, or by menus if the computer control port is used.
- Switching between standard packet and satellite operation by push button or computer command.
- Excellent sensitivity.
- Wide range Automatic Gain Control circuit.
- Automatically tunes downlink radio via UP/DOWN control lines to compensate for Doppler frequency shift.
- Interfaces easily to the PacComm TNC-NB96 for 9600 bps and 1200 bps satellite operation.
- LEDs show signal lock and step-up, step-down pulses.
- LED bargraph displays proper signal tuning, also shows mode and functions selected.
- Rear panel connections:
    - ⇒ Uplink radio
    - ⇒ Downlink radio
    - ⇒ TNC radio port
    - ⇒ TNC modem disconnect header
    - ⇒ Telemetry and control port
    - ⇒ Power.
- Operating manual contains detailed installation and interface instructions.

One year factory parts and labor warranty, 30 day return privilege. Shipped with all interconnecting cables, User's Manual, and complete schematic diagrams. Power supply provided (North America only).

TNC-NB96/PSK-1 Satellite Modem Combo

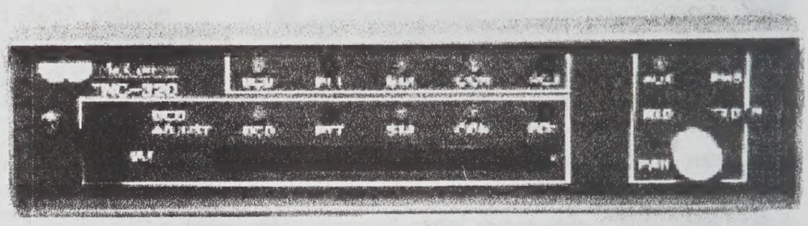


Completely interfaced, just terminate the radio cable !!!

The TNC-320 HF/VHF Packet Controller

The TNC-320 is a dual-modem HF/VHF packet controller. It has excellent HF performance including superior HF carrier detection.

- Separate modem circuits for optimum VHF and HF operation.
- Uses the EXAR 2206/2211 PLL modem and 6 pole active filter for superb HF operation. Superior HF carrier detection performance.
- HF modem filter may be bypassed and the modem retuned to support VHF tones.
- Expanded auxiliary modem header supports PacComm's G3RUH 9600/19200 baud modem and PSK-1 satellite modem.
- Radio port selection is by a single keyboard command which also selects a separate heard log, radiolink and various parameters.
- The AX.25 firmware uses the TAPR command set with numerous additional commands to support PacComm features and enhancements. Supports TCP/IP via the built-in KISS module.
- Personal Message System (PMS) with manual and reverse forwarding. The PMS allows the packet controller to support all standard packet functions while allowing messages to be entered or read by an over-the-air user.
- PMS message space expandable to 128k via installation of the PacComm Memory Expansion Adapter.
- Each unit comes with a comprehensive Operating/ Technical Reference Manual, a Command Reference Card, and a circuit schematic. Mating connectors for the RS-232 computer connector (TNC-320 only) and the radio and power connectors are provided.
- The TNC-320 front panel features a horizontal LED bargraph tuning display, HF threshold control, and 14 multi-colored status LEDs grouped for instant recognition.
- LEDs display activity on the RS-232/TTL data in and data out lines.
- The TNC-320 requires 12-16 volts DC @ 280mA. The "low power" option reduces current draw to 150mA.
- Available Options: Hardware clock, Open Squelch DCD adapter, 9600 bps DFM modem.
- Available with the latest PacComm APRS firmware (requires deletion of PMS function) for use as an HF APRS tracker or relay.



The PacComm Edition of Visual PacketPet for Windows

Now available, a Windows packet terminal program written by an ***experienced*** packet user. Chuck Harrington, WA4GPF, has been active in packet since the the days when the TNC-1 was still just called the TAPR TNC.Chuck is the author of the widely known Packet-Term program for the Atari. Several years ago he turned his attentions to the PC and the Windows platform. Now he has released this powerful program, PacketPet for Windows. Chuck distributes his program as shareware, and PacComm sells a special version with unique features to support PacComm TNCs.This is quality professional software, but at a price that doesn't cost you an arm and a leg.

PacketPet Features

- Standard Windows SETUP program for trouble free installation.
- Excellent on-line help and documentation.
- Supports multiple simultaneous packet or other digital mode sessions each using its own window.
- Excellent on-screen editor. Compose and edit messages while operating several connections in other windows.
- Supports all PacComm TNCs and the TNC-1, TNC-2 and compatibles, as well as AEA and Kantronics units.
- Macro recorder automatically creates Macro files from your keystrokes.
- Macro Player permits automatic (robot) operations at set times or intervals and at PacketPet startup and shutdown. This can be used for automatic connections such as to your local PBBS.
- Binary transfers with simultaneous CHAT between operators.
- Support for .WAV sound files. Connect and Disconnect messages and many other events may be set to cause spoken output.
- 27 definable menus for personal customization.
- Support for multiple TNCs at the same time. Attach up to four TNCs. Each TNC has its own main window and configuration.
- Font sizes and colors selectable. Ideal for those people who see best with large type.
- Printed Users Manual and help line support.

The PacComm HandiPacket

HandiPacket Features

- Rugged all-metal case for durability and low RF noise; 1.28 x 2.55 x 4.15 inches.
- Built in heavy-duty 500 mAH battery pack. Up to 10 hours of operation between charges.
- LEDs and RS-232 voltages may be disabled for even longer battery endurance.
- Modem circuit features 'open squelch' operation for better performance in noisy conditions.
- Advanced Personal Message System with 15k Bytes of battery maintained message storage.
- GPS support - six GPS commands.
- Belt clip, Velcro (TM) mounting strap, and computer and unterminated radio cables included at no charge. Battery charger is also included with North American models.
- Six LEDs - DCD, PTT, STA, CON, PWR, and Message Waiting.
- Standard DE-9 RS-232 connector.
- Eight pin MiniDIN radio/ external modem connector.
- Built-in circuitry to support hand held radio PTT circuits.
- AX.25 firmware including KISS and the advanced PacComm Personal Message System.
- 32k battery backed RAM, 4.9 MHz CPU clock speed, 6 MHz rated low power CMOS ICs.

Available with either the Personal Message System OR the latest APRS/GPS support firmware. Please specify when ordering.

Do you have a

Heathkit Pocket Packet

PacComm offers our latest firmware for the Pocket Packet.

The popular truly portable packet controller.

- Ideal for portable or mobile operation.
- Take a self-powered packet controller wherever you go.
- A personal message system right on your belt!
- Set up an instant digipeater for emergencies
- A reporting station at public service events.
- Use with a handheld GPS receiver and APRS software for an automatic position reporting system.

The HandiPacket provides unequalled performance and flexibility. Just compare the features of the HandiPacket with any other unit and you'll clearly see the superiority of the HandiPacket design. This is NOT a small desktop unit with an add-on battery holder!

Sophisticated carrier detection circuit ignores computer hash and other types of noise and interference which is the plague of portable packet operation.

Self-contained Nickel-Cadmium battery pack provides continuous operation of 10 hours on a single charge. Top panel DIP switches disable LEDs and RS-232 drivers for even longer battery life.

Externally accessible controls on the HandiPacket allow Microprocessor RESET and Transmit Level Adjustment. You should never need to open the case.

Uses CMOS 6MHz Z80 CPU and CMOS 8530 HDLC IC. EPROM is socketed to allow easy firmware upgrades. Modem uses TCM3105 modem IC.

The Personal Message System (PMS) is an advanced personal mailbox/mini-BBS. About 15k bytes of battery backed RAM are allocated for message storage in the HandiPacket.

Rugged all-metal case. DE-9 male connector for connection to computer or terminal. Eight pin Mini-DIN connector for radio interface cable.

Battery charger & external power connector is a 2.1 mm coaxial socket (positive center).

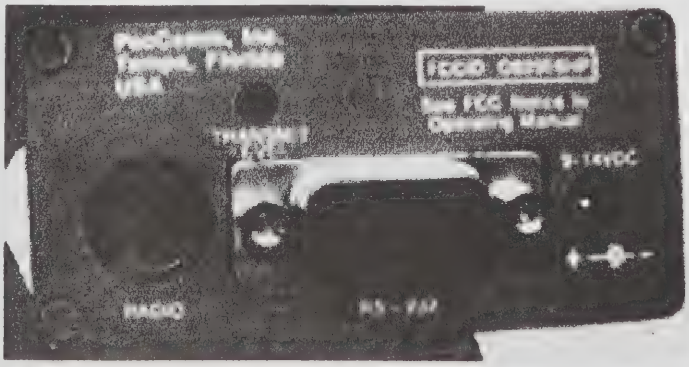
All HandiPackets are supplied with internal battery pack, belt clip, Velcro™ mounting straps, 6 foot (2 meter) radio cable with tinned leads, computer cable and battery charger. (Note: Battery charger is not included in export shipments due to varying line voltages and electrical codes).

Also included are a comprehensive Operating and Technical manual, and circuit schematic.

Now available with APRS support!

The HandiPacket is now offered with PacComm's Personal Message System (PMS) and limited GPS support features, or with full APRS support.

Please specify PMS or APRS model when ordering.



The Gracilis PackeTwin

PacComm now manufactures and supports the Gracilis PackeTwin. This product allows the serious radio network user to use AX.25, NET/ROM, and TCP/IP protocols simultaneously.

The PackeTwin is a two channel communications controller (HDLC) card for use in the 8 bit ISA PC bus. It uses the 85230 Enhanced Serial Communication Controller.

The PackeTwin supports one DMA channel and one polled channel. Uses only one PC interrupt (IRQ) for both channels.

It will operate two asynchronous (RS-232/422) channels or one asynchronous channel and one radio channel. Both ports are configured with RS-232 drivers, but RS-422 drivers are available on special order.

Hardware watchdog timers are provided on both ports.

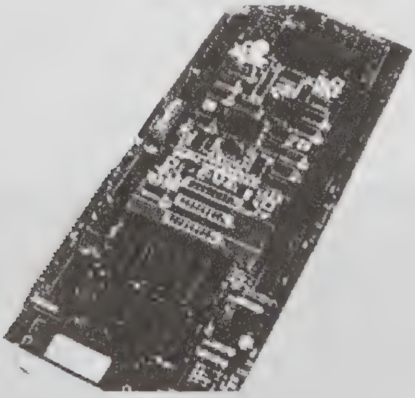
The PackeTwin can drive external modems on both ports, or support one modem on a daughterboard and one external modem.

The PackeTwin supports internal or external clocking, NRZ or NRZI.

Configurations

The PackeTwin may be fitted with PacComm modems which use MSK or DFM modulation, and operate at speeds from 1200bps to 64kbps. All optional modems for the PackeTwin use surface mount technology for a durable, compact design.

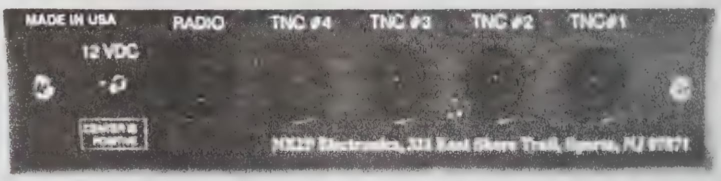
The PackeTwin makes an ideal single user support card for the PacComm WA4DSY 56kb MSK modem. Drive the 56kB modem via the DMA channel and use the interrupt driven channel for 9600/19200 DFM operation.



PackeTwin card with PacComm Surface- mount 19k2 DFM Modem installed.

Radio Multiplier-II (RM-II)

The RM-II allows **maximum utilization** of the dedicated packet station. The RM-II is an ideal device for multiplexing numerous functions through a single radio. Run TCP/IP and AX.25 simultaneously through the same radio. The RM-II is a valuable tool around the shack. Use it to compare the performance of a TNC with a "known good" unit using the same radio and real-world signals.



The RM-II allows up to four TNCs to share one radio by diode "Or-ing" the PTT control signal from each TNC and combining their audio outputs. This combined audio signal is then sent to the transceiver's microphone input as well as being amplified and combined with the transceiver's receive audio before being sent to the receive audio input of each TNC. The audio feedback prevents more than one TNC from keying the radio at the same time and provides the means for all the TNCs to communicate between each other. Audio inputs are high impedance and outputs are low impedance.

The RM-II connects to the radio via a 5 pin DIN socket. Each TNC is connected to the RM-II via its own cable (not supplied) to its own connector on the rear of the RM-II. The RM-II requires a single 12V supply for operation. Unswitched 12V from the RM-II's input is available at each of the TNC connectors to supply to the TNCs.

The TI3DJT CoaxLAN

The CoaxLAN adapter replaces complex diode matrices in Node/Switch stacks with a system which communicates using just a signal and ground wire.

The CoaxLAN detects data on the "bus" or LAN and flow controls the attached TNC serial port off. Transmit drivers are tri-stated except when transmitting.

The **CoaxLAN is now built-in to the SPIRIT-2 TNC**, providing simple inter-linking for TheNet Node Stacks and ROSE Switches.

- LEDs allow easy monitoring of data in and out of each Node or Switch.
- Small size - in a DE-9 cable housing.
- Connects directly to the TTL serial port of TINY-2 or MFJ TNCs.
- Convenient, shielded connections. Lengthy cable runs (3000 ft.) between node TNCs possible.
- Increased fan-out. More TNCs per stack.
- Allows 38.4 kbps data rate when used with the TINY-2 MK-II Node. Rapid interprocessor communications.
- Older TINY-2, MICROPOWER-2, and MFJ TNCs can be used if 5VDC is jumpered to the TTL connector to power the CoaxLAN.

Please specify ROSE or TheNet Model when ordering.

The WA4DSY 56kb RF Modem

A modernized version of the famous 56kb MSK modem designed by Dale Heatherington, WA4DSY. Licensed by PacComm.

WA4DSY designed a 56kb MSK RF modem in the late '80s which has been used successfully in the Atlanta and Ottawa areas. The modem was sold as a kit by the GRAPES club in Atlanta, and is often called the GRAPES modem.

The new design is a single PC board. Parts count is greatly reduced. Many tune up and operational conveniences have been added.

This modem must be used with a transverter for the desired frequency band.

- Power requirements: +12 VDC @ 300mA.
- Packaged in a PacComm extruded case 7.25" wide x 7.25" deep x 1.5" high.
- Optional 12 volt, 30 W. switching supply. (Powers both modem and transverter).

Interface Connections

Power:	2.1mm round connector
Electrical:	Balanced RS-422 or CMOS
Physical:	DA15 female – Pinout compatible with Ottawa PI-2 card
IF in/out:	BNC
Transverter:	5 pin DIN, female.

Performance

IF Freq:	29-30 MHz
Output Power:	adj 0.1mW to 2mW
Freq. Control:	Synthesizer 1 kHz steps
Key- up Delay:	0 ms
RX DCD Time:	3 ms
Total Delay:	3 ms

Features

Remote Reset System

Allows a remote site computer to be reset by remote control.

Built in FIFO Bit Regenerator

Allows the modem to become a full duplex bit repeater with no additional hardware. The RS422 interface remains fully functional when the bit repeater is enabled.

Watchdog Timer

A 2 second watchdog timer turns off PTT after 2 seconds. Resets when RTS goes false. Can be disabled .

Built-in Tuning Aids

In "tune up mode" the transmitter becomes a sweep generator to allow tuning the RF coils properly using only a dual trace 30 MHz scope.

LEDs

Ten LED signal strength display. LEDs for READY, PTT, and DCD. There is 1 internal LED which indicates when the Remote Reset Relay is closed.

Switches

Front panel: Power switch (push on - push off), rotary hex frequency selector. Rear Panel: KEY TX : activates transmitter and sends scrambled ones. REMOTE RESET: Sends remote reset code.

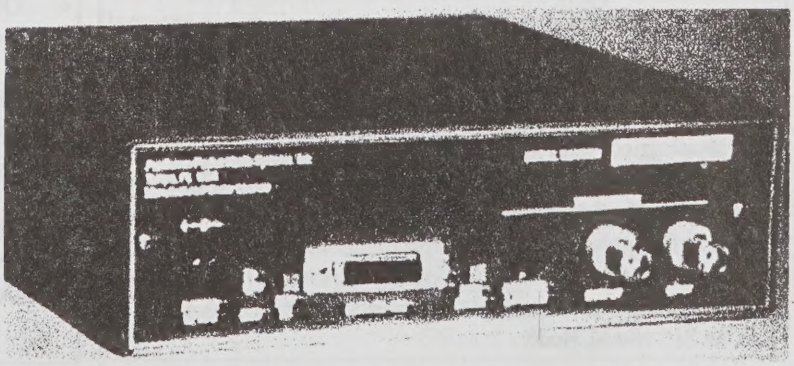
Technology

All the digital logic is implemented in a single Xilinx XC3042A-7 chip packaged in an 84 pin PLCC. Data carrier detection is done digitally in the Xilinx chip. User transmit data is scrambled (x17 + x5 +1) and converted to NRZI.

A 27C256 EPROM holds both the Xilinx chip programming data and all the state machine and waveform tables for the modem transmitter. It also holds the data which is loaded into the frequency synthesizer at power up. Transmit and receive frequencies are programmed independently.

The only adjustments involve tuning the filters. The special tuning mode should make that task simple. The transmitter signal is compatible with existing 56kB WA4DSY modems.

Drive the 56kb modem with a Gracilis PackeTwin HDLC card or, for stand alone operation, a PacComm SPIRIT-2 PAD.



MC-NB96 Internal DFM Modem Card

The MC-NB96 internal modem card is designed to attach directly to the TAPR style modem disconnect found on all PacComm TNCs. Also fits all TNC-2 derivatives and TNC-2 compatibles with a modem disconnect header.

Upgrade your TINY-2 to 9600 operation far less expensively than purchasing a new 9600 TNC. Combine the MC-NB96 with the TINY-2 MK-2 Node for an economical 9600/19200 bps network link.The low cost alternative for upgrading existing 1200 baud network links to 9600 bps or 19200 bps or higher.

- All baud rate sensitive components are mounted on a plug-in header.
- Transmit and receive sections are isolated for superior full duplex performance.
- Transmit and receive voltage references are separated and Zener diode stabilized.
- Transmit audio may be enabled or disabled during receive.
- An on-board DCD LED makes troubleshooting convenient.
- The DCD signal may be jumpered to be active high or low.
- DCD circuitry provides a stable DCD indication.
- Receive audio may be gated by the DCD signal or run continuously.
- Comprehensive bypassing and a large ground plane make the board very quiet.

The Rockwell “Jupiter” GPS Receiver

Rockwell’s “Jupiter” GPS receiver is a single-board, 12 parallel-chennel receiver engine. The highly integrated digital receiver uses the Zodiac chipset. The receiver continuously tracks all satellites in view, thus providing accurate satellite positioning data.

The “Jupiter” is packaged on a 28 square centimeter printed circuit board intended for harsh industrial applications. The receiver requires conditioned DC power and a GPS signal from a passive or active antenna.

The all-in-view tracking of the “Jupiter” receiver provides robust performance i applications that require high vehicle dynamics and in applications that operate in areas ofhigh signal blockage such as dense urban centers. The receiver continuously tracks all visible GPS satellites and uses all the measurements to produce an overdetermined, smoothed navigation solution. This solution is relatively immune to the position jumps induced by blockage that can occur in receivers with fewer channels.

The 12-channel architecture provides rapid Time-To-First-Fix (TTFF) under all startup conditions. To minimize TTFF when prime power is removed from the receiver, an external DC voltage is required to maintain power on the Static RAM and the Real time clock.

Communication with the receiver is established through two identical, independent, asynchronous serial I/O ports that support full duplex communication. The primary serial port outputs navigation data and accepts commands in NMEA format or Rockwell binary message format. The secondary port is configured to accept Differential GPS corrections in RTCM SC-104 format.

'Open Squelch' Digital DCD Adapter

The PacComm DCD Board is based on a design by Eric S. Gustafson, N7CL. This digital DCD circuit allows the radio to be operated unsquelched by generating a DCD signal only when a packet signal is present.

Why is it useful?

Unsquelched radio operation is useful when the radio has slow, insensitive squelch action or poor hysteresis. Weak signals are sometimes lost due to a slow opening squelch, and link throughput is reduced because longer transmit delay times must be used to wait for the squelch to open. Some squelch circuits can be fooled by even moderate amounts of noise or hash present in the IF.

The PacComm DCD is a surface mount card that measures 1.85" x 1.25" (47 x 38 mm) and can be ordered in three styles:

- DCD-3105. Plugs into the socket of a TCM3105 modem IC and carries the DCD-3105.
- DCD-Header. Plugs directly into the pins of a TAPR-style modem disconnect header (20 or 26 pin).
- DCD-Universal. May be integrated into other packet controllers (not limited to the TCM 3105 modem IC) by directly wiring to the circuit board and modem IC.

The DCD circuit is included in the HandiPacket, IPR-NB96, TNC-NB96 and PSK-1T. A similar circuit in part of the PicoPacket.

General Specifications TEKK KS-900/900L (KS-960 & 1000 are similar)

FCC ID	GOXKS-900/15.22.90
Frequencies	450-470MHz (KS-900) 430-450MHz (KS-900L)
Operating Temp	-30 to +60C
Voltage	9.6VDC (7.5 to 12.0)
Dimensions	85 x 52 x 21 mm
Weight	145g
RF Connector	BNC/50 Ohms
Interface Connector	9 pin D

Transmitter

Power output	2W @ 9.6VDC (KS-1000 5W)
Modulation	Direct FM
Attack Time (TXD)	8ms
Audio Response	Flat
Distortion	%
Maximum data mod.	50mV for 3.5kHz deviation
Spurious Emissions & Harmonics	<->60dBc

Receiver

Sensitivity	0.35uV
Selectivity	70dB
Spurious Rejection	60dB
Audio Response	Flat
Distortion	5%
Receiver recovery	8ms
Audio output	750mV RMS
Current Drain	20mA
Connector	

- Pin 1 - +Volts
- Pin 2 - Ground
- Pin 3 - PTT
- Pin 4 - TXA
- Pin 5 - RXA
- Pin 6 - n/c
- Pin 7 - Ground
- Pin 8 – n/c (RSSI on 960/1000)
- Pin 9 - DCD

Transmitter Crystal Specifications

Holder	HC-18/T Wire Lead
Mode of oscillation	Fundamental
Load Capacity	32pF parallel
Series Resistance	20 Ohms
Driver Level	2mW
Holder Capacity	7pF max.
Operating Temperature	-20C to +60C
Frequency Tolerance	+/- 5ppm
Freq Stability	+/- 5ppm
Freq Calculation	(Fc/27)

Receiver Crystal Specifications

Holder	HC-18/T Wire Lead
Mode of oscillation	Third Overtone
Load Capacity	32pF parallel
Series Resistance	35 Ohms
Driver Level	2mW
Holder Capacity	7pF max.
Operating Temperature	-20C to +60C
Frequency Tolerance	+/- 5ppm
Freq Stability	+/- 5ppm
Freq Calculation	(Fo-21.4)/9

KS-2000 General Specifications

FCC ID	GOXKS-2000
Frequencies	216-222MHz
Operating Temp	-30 to +60C
Voltage	10.8VDC Nominal
Dimensions	85 x 52 x 21 mm
Weight	145g
RF Connector	BNC/50 Ohms
Interface Connector	9 pin D

Transmitter

Power output	3 Watt
Modulation	Direct FM
Attack Time (TXD)	8ms
Audio Response	Flat 100Hz = +2 to -4dB 4kHz = +2 to -4dB
Distortion	< 5 %
Maximum data mod.	50mV for 3.5kHz deviation
Spurious Emissions & Harmonics	-55dB

Receiver

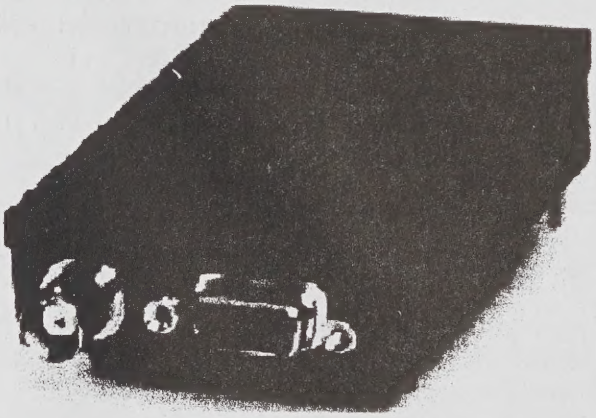
Sensitivity	0.35uV
Selectivity	60dB
Spurious Rejection	60dB
Audio Response	Flat 100Hz = +2 to -4dB 4kHz = +2 to -4dB
Distortion	5%
Receiver recovery	8ms
Audio output	100-300mV RMS
Current Drain	16mA

TEKK® Data Radios

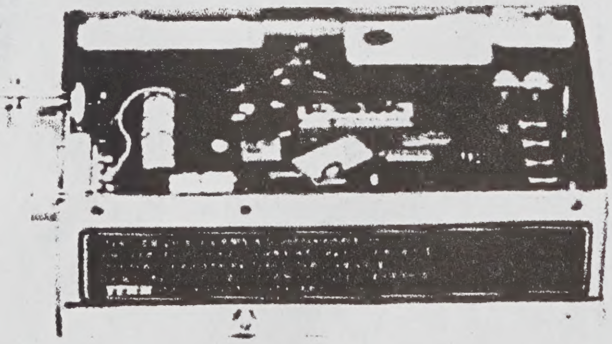
PacComm carries all models of TEKK data radios, for both commercial and amateur frequencies. These radios operate quite effectively at 9600 bps using DFM modulation.

PacComm stocks filters to modify the radios for use at 19.2 kbps data rate. The filters are available installed by PacComm or for user installation.

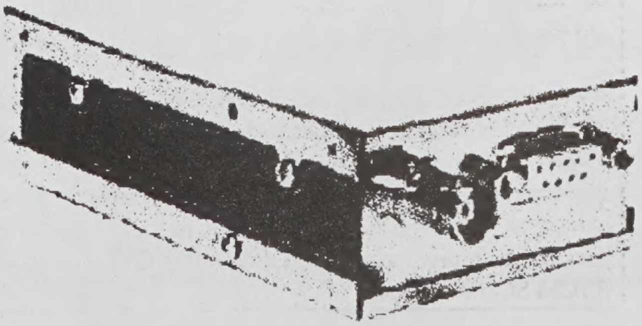
Please note that all radios are special ordered to your exact frequency. Therefore all radio orders must be paid in advance and orders may not be cancelled or altered once the order is confirmed.



Tekk KS-900/900L



Tekk KS-1000/1000L 5 Watt UHF Data Radio. (above)
Tekk KS-960/1000/2000 type of case (below)



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Toll Free Order Line: 800-486-7388

Browse our on-line catalog @ http://www.paccomm.com

Please contact us for additional information on the products in this catalog and on the many additional items shown on the price sheets which are not described herein. Check into our BBS or browse our web page regularly for the latest product information.

Communications Professionals

Contact PacComm for assistance with your **Vehicle Tracking** or other **GPS** positioning and **RF data communication** requirements. Ask for literature on our commercial and industrial products.

New!

SPIRIT-2/RF

The PacComm SPIRIT-2/RF incorporates the SPIRIT-2 packet controller and 2 watt commercial data transceiver (70 cm) in a single unit.

Available with RF data rates of 9600 or 19,200 baud. Baud rate must be specified at time of order.

It is the ideal low cost dedicated end-user link to a BBS, node site or DX Cluster. In addition, it is equally at home on the mountain-top providing reliable network node service at a price lower than ever before. It remains TheNet and TNC-2 compatible, but has the power to ensure that in high speed end-to-end links data is not slipped.

Radio details: Crystal controlled single channel, 2W output power. Please specify exact frequency and desired RF data rate (9.6 or 19.2 kbps) required when ordering.